



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-------------------------|------------------|
| 10/017,157 | 12/14/2001 | Anja Knuppel | Beiersdorf 756 -KGB/BSL | 1726 |

27384 7590 01/27/2005

NORRIS, MCLAUGHLIN & MARCUS, PA
875 THIRD STREET
18TH FLOOR
NEW YORK, NY 10022

EXAMINER

JIANG, SHAOJIA ANNA

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1617

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,157

Applicant(s)

KNUPPEL ET AL.

Examiner

Shaojia A. Jiang

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is a response to Applicant's amendment and response filed on November 12, 2004 wherein claims 1 and 3-15 have been amended and claims 16-18 are newly submitted. Currently, claims 1 and 3-18 are pending in this application.

Claims 1 and 3-18 as amended now are examined on the merits herein.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 6-7, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderle et al. (2002/0028875) in view of Kim et al. (6,372,876), in view of Stein et al. (5,399,563) and in view of the Handbook of Cosmetic Science and Technology, essentially for same reasons of record stated in the Office Action dated July 14, 2004.

Anderle et al. disclose plasticized waterborne polyurethane dispersions and the general process for making polyurethane (see abstract, [0011] to [0020] at page 2). Anderle et al. also disclose the personal care compositions comprising the waterborne polyurethane dispersions and sunscreens. Exemplified is a sunscreen composition comprising water-soluble sunscreen and 7.5% of the polyurethane dispersion. The

Art Unit: 1617

polyurethane dispersion is the product of the process comprising reacting at least one polyisocyanate having an average of about two or more isocyanate groups and at least one active hydrogen containing compound to form a prepolymer, and dispersing the prepolymer in water and chain extending prepolymer by reaction with at least one of water, inorganic or organic polyamine having an average of about 2 or more primary and/or secondary amine groups, or combinations thereof. Aliphatic polycarboxylic acids, such as dicarboxylic acids are taught as preferred diols. See [0068]-[0084]; [0261]-[0262].

While not explicitly stated, it is respectfully pointed out that it is well established in the cosmetic-sunscreen art that sunscreen formulations for personal care application are applied to the skin.

The reference lacks an oil-in-water emulsion, preferred diols, and microemulsions.

Kim et al. teach the use of polyurethanes which are soluble or dispersible in water as aids in cosmetic compositions. The polyurethanes are composed of at least one compound which contains two or more active hydrogens per molecule, at least one diol containing acid or salt groups, and at least one diisocyanate. For diols having the structure of the instant claims, see Col. 3, line 53-Col. 4, line 24. The polyurethanes are taught as soluble/dispersible in water without the assistance of emulsifiers, resistant to humidity, and biodegradable. The polyurethanes are taught as having a preferred particulate size of 5-100 nm (see Col. 6, lines 1-7).

Stein et al. exemplify oil-in-water sunscreens as preferred sunscreen formulations (see Col.10, line 50).

The Handbook of Cosmetic Science and Technology teaches emulsions as promoting cosmetic elegance and allows otherwise impractical combinations of ingredients, i.e. oil soluble and water soluble materials, to be used in the same product. Emulsification is taught as offering great formulation flexibility, enabling modification of such parameters as feel, viscosity and appearance, to be made relatively easily. In addition, emulsions facilitate the “dosing” of active ingredients onto the skin in an aesthetically pleasing and consistent manner. Emulsions are additionally very cost effective and offer a viable means of producing a commercially successful product. See page 95. The Handbook additionally teaches that the rate of phase separation can be reduced by reducing the dispersed phase particle size. Table 4 on page 112 of the Handbook teaches microemulsions as transparent. See pages 95, 112, 115, and 117.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Stein et al. and the Handbook of Cosmetic Science and Technology to teach the sunscreen composition of Anderle in the form of an oil-in-water emulsion because of the expectation of achieving a sunscreen formulation that allows a combination of oil soluble and water soluble active materials and promotes cosmetic elegance.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the polyurethane of 5-100 nm of Kim et al. as the polyurethane of Anderle, a) because both Anderle and Kim et al. are directed toward

Art Unit: 1617

water soluble/dispersible polyurethanes for use in cosmetics; b) because of the expectation of achieving a polyurethane that is soluble/dispersible in water without the assistance of emulsifiers, and because of the expectation of achieving a sunscreen product that is resistant to humidity, thereby providing protection in a humid climate, and biodegradable.

It is respectfully pointed out that McGraw Hill Encyclopedia of Science and Technology defines a microemulsion as typically clear because the dispersed droplets are less than 100 nanometers in diameter.

Claims 8-10, 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderle et al. in view of Kim et al., Stein et al. and the Handbook of Cosmetic Science and Technology as applied to claims 1, 3-4, 6-7, 11 above, and further in view of Koch et al (6,258,963) and Tanner et al. (5,989,528, PTO-892).

Anderle et al., Stein et al., Kim et al. and the Handbook of Cosmetic Science and Technology, are applied as discussed above.

The references lack preferred sunscreen agents.

Koch et al. teach cosmetic compositions comprising UV absorbers.

Aminobenzoic acid derivatives, salicylate derivatives, cinnamate derivatives, phenylene-bis-benzimidazol-tetrasulphonic acid disodium salt, 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)-phenol), 2,4-bis-((4-(2-ethyl-hexyloxy)-2-hydroxy-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine and others are taught as traditional and interchangeable UV absorbers. See Col. 3, line 39-Col. 4, line 59.

Tanner et al. teaches that coated and/or uncoated titanium dioxide is well known sunscreen agent used in cosmetic compositions (see col. lines 6-13; claim 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add 2,4-bis-((4-(2-ethyl-hexyloxy-2-hydroxyl-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine or 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl-phenol) of Koch et al., or coated and/or uncoated titanium dioxide to the composition of Anderle et al. because a) Anderle et al. teach aminobenzoic acid derivatives, salicylate derivatives, and/or cinnamate derivatives as sunscreens in his compositions. 2,4-bis-((4-(2-ethyl-hexyloxy-2-hydroxyl-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine or 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl-phenol), or coated and/or uncoated titanium dioxide are known as interchangeable and combinable with aminobenzoic acid derivatives, salicylate derivatives, and/or cinnamate derivatives.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderle et al. in view of Kim et al., Stein et al. and the Handbook of Cosmetic Science and Technology as applied to claims 1, 3-4, 6-7, 11 and 18 above, and further in view of Gers-Barlag et al. (5,725,844).

Anderle et al., Stein et al., Kim et al. and the Handbook of Cosmetic Science and Technology are applied as discussed above. The reference lacks hydrodispersions.

Gers-Barlag et al. teach sunscreen formulations. O/W emulsions and hydrodispersions are taught as interchangeable cosmetic formulations for sunscreens.

Hydrodispersions are taught as preferable forms because they do not impart irritation to the skin of a user as a result of surfactants, as hydrodispersions do not contain surfactants. See Col. 2, line 15-Co1. 3, line 32.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the oil-in-water emulsions of the combined references in the form of hydrodispersions because Gers-Barlag et al. teach these formulations as interchangeable and because of the expectation of achieving a product that is less irritating to the skin of the user.

Response to Argument

Applicant's arguments filed November 12, 2004 with respect to the rejections made under 35 U.S.C. 103(a) of record in the previous Office Action July 14, 2004 have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art as further discussed below.

Applicants argue that "the cited references teach or suggest every limitation in the claims. Accordingly, the references together with knowledge in the art do not render the claims obvious. Applicants argument is not found convincing. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208 SPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). See MPEP 2145.

In this case, every limitation in the claims is taught by the combined teachings of the cited prior art. The motivation to combine the teachings of the prior art cited herein to make the present invention is seen as discussed in the set forth rejections.

It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. In re McLaughlin , 170 USPQ 209 (CCPA 1971). See MPEP 2145. Thus, the claimed invention is clearly obvious in view of the prior art.

Further, the record contains no clear and convincing evidence of nonobviousness or unexpected results for the combination employed in method herein over the prior art. In this regard, it is noted that the specification provides no side-by-side comparison with the closest prior art in support of nonobviousness for the instant claimed invention over the prior art.

For the above stated reasons, said claims are properly rejected under 35 U.S.C. 103(a). Therefore, said rejection is adhered to.

In view of the rejections to the pending claims set forth above, no claims are allowed:

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1617

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

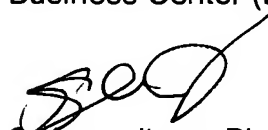
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jiang, whose telephone number is (571)272-0627. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, Ph.D., can be reached on (571)272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Anna Jiang, Ph.D.
Primary Examiner
Art Unit 1617
January 13, 2005